

REMARKS

Applicants wish to thank the Examiner for the thorough examination of the above-referenced patent application, and the allowance of claim 23. The Office Action has, however, rejected the remaining claims. For the reasons set forth herein, Applicants respectfully traverse the rejections and request that they be withdrawn.

Discussion of Office Action Rejections

With regard to independent claims 1, 11, and 15, the Office Action rejected these claims under 35 USC § 103(a) as allegedly unpatentable over US Patent 4,975,833 to Jinzaki in view of US Patent 5,448,608 to Wilkes and further in view of US Patent 6,78,772 to McKenney. For at least the reasons set forth below Applicants respectfully disagree with the rejection.

As noted in Applicants' Preliminary Amendment, among other distinctions, independent claim 1 recites: "wherein the system is further configured to permit read access to a RAM by a plurality of the nodes in the system, but is further configured to limit write access to a RAM to only the node to which the RAM is connected." (*Emphasis added.*) Similarly, independent claim 11 recites "each node containing a coherency mechanism configured to permit only read access to the RAM by other nodes, the coherency mechanism further configured to permit write access to the RAM only by functional units that are local to the node." (*Emphasis added.*) Likewise, independent claim 15 claims "a coherency mechanism within each node, the coherency mechanism configured to permit read access to a given RAM by any of the plurality of nodes, the coherency mechanism further configured to permit write access to the given RAM only by functional units of the node connected to the

given RAM.” (*Emphasis added.*) These elements clearly distinguish claims 1, 11, and 15 over the cited art, and for at least this reason the rejections are misplaced.

As Applicants have previously noted, unlike the invention of independent claims 1, 11, and 15 the system of Jinzaki specifically teaches that remote processors have the ability to write to a non-local RAM (see col. 5, lines 56-63). The Office Action, however, has alleged that Jinzaki effectively teaches this feature. Specifically, the Office Action states “But Jinzaki did teach the use of a lock mechanism in the multi processing system, and when the lock is set only the active processor can write in its local memory (Column 2, lines 45-53).” (Office Action, page 3).

Applicants respectfully traverse this application of Jinzaki. In fact, in contrast to the allegation set forth in the Office Action, column 2, lines 45-53 of Jinzaki actually states: “When the LOCK bit is in a SET state, a reading-out of the local memory in a the [sic] first processor group from a second processor is inhibited while the first processor is writing into the local memory.” As is readily verified from even a cursory reading, what this portion of Jinzaki actually teaches is that the LOCK bit, when set, prevents a remote processor from reading from a local memory only while the local processor is writing to that local memory. This teaching is quite different than the mechanism specified by claim 1 in the application of Jinzaki by the Office Action is misplaced. For at least this reason the rejection should be withdrawn.

As a separate and independent basis for the patentability of claim 1, the Office Action also cited column 2, lines 39-43 of McKenney. Like the teaching of Jinzaki, Applicants also submit that this teaching of McKenney is misplaced. In fact column 2, lines 39-42 of McKenney states: “A reader-writer lock, in contrast, allows multiple reading processes (“readers”) to access simultaneously a shared resource such as the database, while a writing

process (“writer”) must have exclusive rights to the database before performing any updates for consistency.” Simply stated, the system defined by claim 1 of the present application relates to a multi-node system, and more specifically a mechanism that is configured to permit read access to a RAM by a plurality of the nodes in the system, while limiting write access to a RAM to only the node to which the RAM is connected. This claimed feature is quite different and distinct from the “reader-writer lock” that governs the accesses of shared database resources, as disclosed in McKenney. For at least this reason, Applicants respectfully submit that the application of McKenney to the invention of claim 1 is misplaced and should be withdrawn. For at least this separate and independent basis, the rejection of claim 1 should be withdrawn.

As yet an independent basis for the patentability of claim 1, Applicants respectfully traverse the combination of Jinzaki, Wilkes, and McKenney. It is well-settled law that any rejection made under 35 USC § 103(a), based on multiple references, must include a proper motivation or suggestion for combining select features of the references. In this regard, the Office Action alleged only that the combination would have been obvious “because doing so would enhance the overall processing speed of the multi processing system” (See page 3, first paragraph) and “because doing so would prevent conditions that destroy the coherency of data, and thereby insure data integrity within the multi processing system.” (See page 4, lines 1-2). Applicants respectfully submit that this alleged motivation falls far short of the motivation that is required by law under clearly-articulated Federal Circuit precedent. For at least the forgoing, independent reasons, the rejection of claim 1 should be withdrawn. Likewise, claims 2-9, which depend from claim 1, should be allowed for at least the same reasons.

With regard to independent claim 11, the Office Action has advanced the same rejection that it advanced in rejecting claim 1. Therefore, Applicants traverse the rejection of claim 11 for the same reasons set forth above in connection with claim 1. For at least these reasons, independent claim 11, and dependent claims 12-14 should be allowed. Likewise, the Office Action rejected independent claim 15 on the same basis as independent claim 1. Therefore, for the same reasons advanced above in connection with claim 1, Applicants respectfully submit that independent claim 15, and dependent claims 16-18 should be allowed.

With regard to independent claim 19, among other features, claim 19 recites:

wherein the plurality of RAMs are collectively managed as a unified memory space such that data stored in one RAM is not duplicatively stored in another RAM, and wherein the memory controller of each node is configured to permit read access to the connected RAM both a functional unit within the connected node and by remote nodes, but the memory controller of each node is further configured to limit write access to the connected RAM to only the node to which the RAM is connected.

In rejecting claim 19, the Office Action cited the same teachings of Jinzaki and McKenney that it applied to claim 1. Specifically, the Office Action cited column 2, lines 45-53 of Jinzaki as teaching a “lock” mechanism that allegedly disclosed the claimed subject matter as well as column 2, lines 39-43 of McKenney. These portions of Jinzaki and McKenney have been cited above, and the teachings therein clearly distinguished over the relevant claim feature of claim 19 (see Applicants’ response to the rejection of claim 1 above). For at least this reason, the rejection of independent claim 19 and dependent claims 20-22 should be withdrawn and these claims passed to issuance.

CONCLUSION

In view of the foregoing, it is believed that all pending claims 1-9 and 11-23 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fees, in addition to those noted on the accompanying transmittal documents, are believed to be due in connection with this Amendment and Response to Office Action. If, however, any additional fee is believed to be due, you are hereby authorized to charge any such fee to Hewlett-Packard Company's deposit account No. 08-2025.

Respectfully submitted,

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